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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service

The Utilization of Capacity and the Production and Distribution
of Products by the Cottonseed Crushing Industry

By G. S. Meloy, Senior Marketing Specialist

Address, Convention of the National Cottonseed Products Association,
New Orleans, La., May 19-21, 1941

Mr. President, and

Members of the National Cottonseed Products Association:

At your convention last year it was my pleasure to present a paper which I called "Some Economic Aspects of Present Cottonseed-Crushing Mill Establishments." At this convention I should like to carry that thought a little further by presenting a few facts of your industry as I have compiled them, principally from the statistics published by the Bureau of the Census and the U. S. Department of Agriculture, and then by showing a few graphs based on those facts.

As background information I have first calculated the tonnage of seed which you are prepared to crush. Although I do not have the exact figures as to the number of available presses, I am informed that there have been above 3,000 each year during the past 5 years and that each press has a daily capacity of 15 tons of seed.

If we allow 25 working days for each of the 31-day months, except December, allowing 20 days for that month as appears to be the general custom among oil mills, then 24 days for each 30-day month, and 22 days for February, we have available 288 working days per annum. Three thousand presses at 15 tons per day, working 288 days per annum, provide a total capacity of 12,960,000 tons.

The monthly distribution of this capacity is shown in table 1; in the third column, the average crush of seed each month during the 5 years, 1935-39 is given, and in the fourth column, the percentage of the available capacity utilized each month on the average. Graph No. 1 illustrates the monthly utilization of capacity. The shaded portion is that part of the whole capacity not utilized, and amounts to 64.1 percent of the total. I do not believe that the crushing of peanuts and soybeans by a few of the mills will shrink this shaded area of nonutilized capacity very much, but separate figures on the pressing of these products by cottonseed-oil mills are not available to me. The total peanut crush during the 5-year period averaged

approximately 82,468 tons. If all this quantity had been crushed by the cottonseed-oil mills, which it was not, you would have increased your utilization of capacity by about 0.6 of 1 percent.

These figures are based on milling conditions as of the years 1935-39. A slightly better economic showing will result from a 5-day week. The available days per annum will be reduced from 288 to 255. The total press capacity per annum accordingly will drop from 12,960,000 tons to 11,475,000 tons. The annual percentage of capacity utilized will be increased from 35.9 percent to 40.6 percent and the unutilized portion of the capacity therefore will be reduced from 64.1 percent to 59.4 percent.

The Bureau of the Census reports the receipts of seed by the mills together with the crush by months.

Table 2 shows the 5-year average of the receipts and crushings, together with the monthly percentage of the average annual receipts and crushings. During the 5-year period, the average receipts totaled 4,643,935 tons and the crush, 4,652,615 tons or 100.18 percent of the receipts. The average carry-overs show that this extra crush came out of the carry-over. Graph No. 2 illustrates the receipts and crushings by monthly percentages of the whole.

By the end of December there was an average cumulative receipt of seed of 85 percent of the annual total, and by the end of March, 89 percent of the average annual crushings had been completed.

So much has been rumored about the holding of oil for a spring rise in the price, that in spite of the fact that it is shown in U. S. Department of Agriculture Technical Bulletin 737 entitled "Wholesale Prices of Fats and Oil in the United States: Index Numbers, 1910-39", that there is no regularity in seasonal movement for cottonseed-oil prices over an extended period. I have made a few calculations to see just what were the actual price conditions during the 5-year period 1935-39.

Table 3 gives the 5-year average monthly production of cottonseed oil, the monthly percentage of oil produced each month, the average pounds of oil shipped each month, the monthly percentage of the annual total, and the average monthly price of prime crude in the Southeast.

Graph No. 3 illustrates these items. You will note how little lag there is between production and shippings; also, that during the 5 years 1935-39, the average price of oil dropped in February and declined each month from March until June. The July price shows an average rise, due probably to new crop prospects and consumption factors. There was a slight increase in the average carry-over of oil amounting to 0.04 of 1 percent of the average annual production.

Table 4 shows the average monthly production of cake and meal, the monthly percentage of total production, the monthly average tonnage of shipments, the monthly percentage of the total shipments, and the monthly average price of 41 percent protein meal at Memphis.

During the 5 years there was a reduction in the average carry-over of 1.14 percent of the average production.

Graph No. 4 illustrates the monthly relation between production and shipments of cake and meal, and contains a curve showing the monthly average price of meal during the 5-year period. You will note that after the average drop in the price during February, there was a rise in the price for March, April, and May, followed by a decline in June and a rise in July. In this connection it should be noted that by the end of February, 75 percent of the annual shipments had been made, and that the July rise brought out only 3,401 tons over the June shipments, and that only 3.19 percent of the average annual totals were shipped that month.

In table 5 the production and shipments of linters have been similarly compared. The carry-over of linters was increased by 1.03 percent of the total average production. The graph -- No. 5 -- does not indicate an undue lag in distribution over production.

In table 6 the production and movement of hulls have been similarly compared and graph No. 6 illustrates the results. The demand for hulls is apparently seasonal, being greatest in the late fall and winter, just as is the demand for cake and meal.

I believe that you will agree with me that these data and graphs indicate that on the average, you cottonseed crushers are getting rid of your products about as fast as you can, after producing them. And also, that during this particular 5-year period, if you had held your oil for a spring rise, you would have lost and the loss might have been even greater than indicated by the graph, since the extra hold-over may have further depressed the price. This is particularly interesting since the average value of the oil during the period studied represented nearly 56 percent of the combined value of all products.

Table 1.- Average monthly utilization of capacity
by cottonseed crushing mills, 1935-39

Month	: Avail- : able : work : days	: Monthly : capacity : 3,000 presses : @ 15 tons	: Monthly : crush	: Percent : of : capacity : used
	: <u>Days</u>	: <u>Tons</u>	: <u>Tons</u>	: <u>Percent</u>
August	: 25	: 1,125,000	: 161,447	: 14.35
September	: 24	: 1,080,000	: 584,893	: 54.15
October	: 25	: 1,125,000	: 765,745	: 68.06
November	: 24	: 1,080,000	: 694,624	: 64.32
December	: 20	: 900,000	: 601,650	: 66.85
January	: 25	: 1,125,000	: 544,469	: 48.40
February	: 22	: 990,000	: 439,716	: 44.42
March	: 25	: 1,125,000	: 359,223	: 31.93
April	: 24	: 1,080,000	: 215,652	: 19.97
May	: 25	: 1,125,000	: 137,014	: 12.18
June	: 24	: 1,080,000	: 85,452	: 7.92
July	: 25	: 1,125,000	: 62,730	: 5.58
Total	: 288	: 12,960,000	: 4,652,615	: 35.90

Table 2.- Average monthly receipts and crushings
of cottonseed, 1935-39

Month	: Monthly : seed : receipts	: Total : receipts	: Monthly : crush	: Total : crush
	: <u>Tons</u>	: <u>Percent</u>	: <u>Tons</u>	: <u>Percent</u>
August	: 268,136	: 5.78	: 161,447	: 3.47
September	: 1,192,628	: 25.68	: 584,893	: 12.57
October	: 1,224,258	: 26.36	: 765,745	: 16.45
November	: 776,022	: 16.71	: 694,624	: 14.92
December	: 491,104	: 10.58	: 601,650	: 12.93
January	: 240,917	: 5.19	: 544,469	: 11.70
February	: 161,404	: 3.48	: 439,716	: 9.46
March	: 114,084	: 2.46	: 359,223	: 7.72
April	: 49,425	: 1.06	: 215,652	: 4.64
May	: 45,274	: 0.97	: 137,014	: 2.95
June	: 41,510	: 0.89	: 85,452	: 1.84
July	: 39,173	: 0.84	: 62,730	: 1.35
Total	: 4,643,935	: 100.00	: 4,652,615	: 100.00
			: 100.18% of	
			: production	

Table 3.- Average monthly production and shipments of
cottonseed oil and average prices, 1935-39

Month	Monthly production	Monthly shipments	Monthly percent of annual production	Monthly percent of annual shipments	Average monthly price per pound
	<u>Pounds</u>	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>	<u>Cents</u>
August	47,992,183	40,685,995	3.32	2.82	7.21
September	175,652,495	144,986,528	12.15	10.04	7.24
October	233,220,657	215,871,113	16.14	14.95	7.21
November	212,636,841	203,524,266	14.72	14.09	7.19
December	184,344,572	188,210,131	12.76	13.03	7.52
January	168,618,146	161,483,642	11.67	11.18	7.48
February	138,254,433	140,919,808	9.56	9.76	7.34
March	116,141,336	123,706,543	8.05	8.91	7.38
April	71,739,518	82,549,702	4.96	5.72	7.24
May	43,644,392	63,167,413	3.22	4.37	6.94
June	23,889,751	44,300,423	2.00	3.07	6.73
July	20,606,719	29,848,120	1.45	2.06	6.88
Total	1,444,771,043	1,444,256,391	100.00	100.00	
		99.96% of production			

Table 4.- Average monthly production and shipments of
cottonseed cake and meal, and average price, 1935-39

Month	Monthly production	Percent of annual production	Monthly shipments	Percent of annual shipments	Average price per ton
	<u>Tons</u>	<u>Percent</u>	<u>Tons</u>	<u>Percent</u>	<u>Dollars</u>
August	72,332	3.44	85,809	4.04	24.95
September	257,705	12.26	210,975	9.93	25.94
October	343,963	16.37	289,609	13.63	24.23
November	312,562	14.88	284,304	13.38	25.50
December	270,041	12.85	253,496	11.93	26.07
January	244,085	11.62	243,383	11.45	26.36
February	202,786	9.56	218,409	10.28	24.71
March	163,591	7.79	193,075	9.08	25.95
April	100,666	4.79	131,393	6.18	27.39
May	65,535	3.12	82,509	3.88	27.14
June	40,283	1.92	64,340	3.03	25.24
July	29,518	1.40	67,741	3.19	28.80
Total	2,101,070	100.00	2,125,043	100.00	
			101.14% of production		

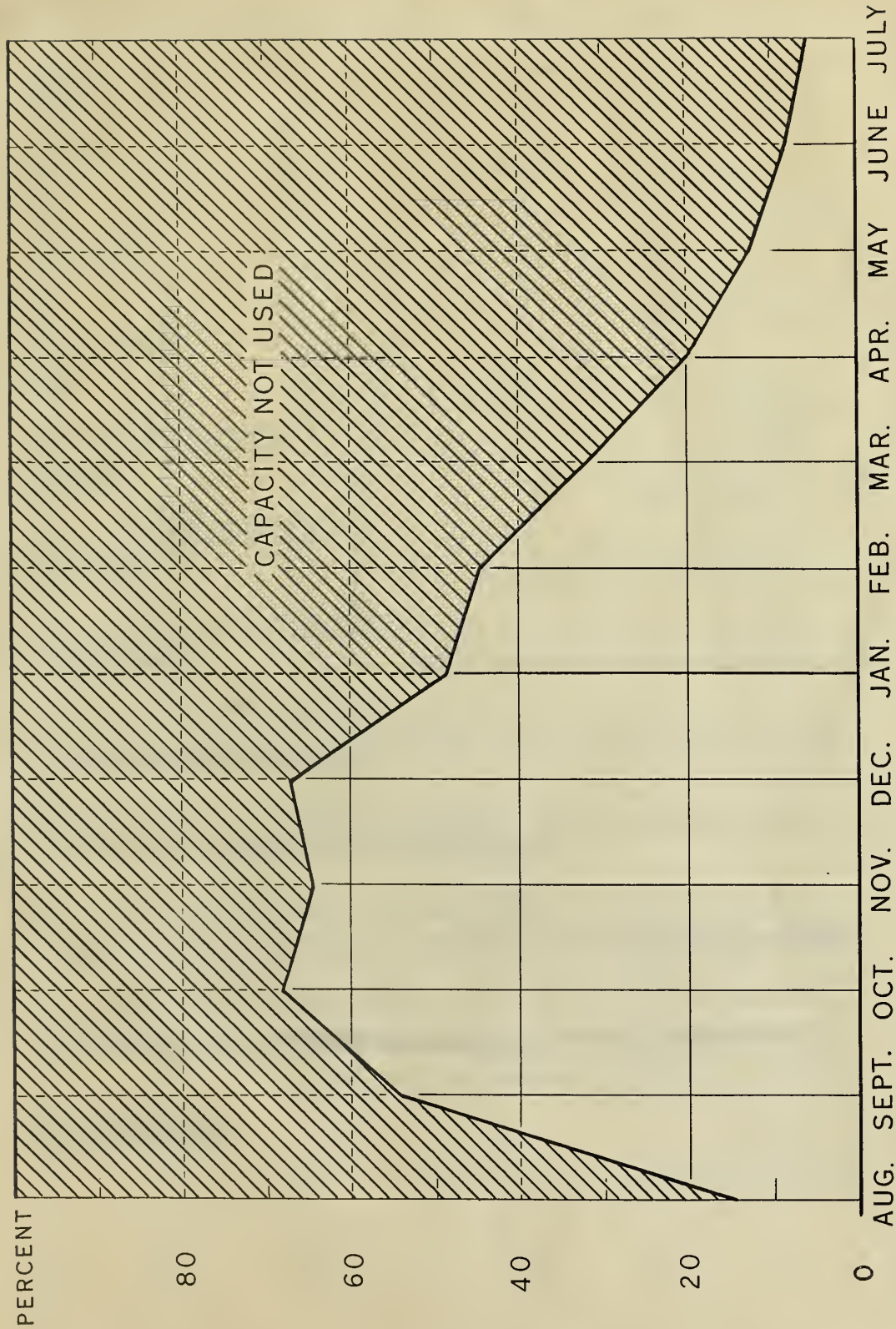
Table 5.- Average monthly production and shipments
of linters, 1935-39

Month	: Linters	: Total	: Bales	: Percent
	: produced	: production:	: sold	: of sales
	: <u>Bales</u>	: <u>Percent</u>	: <u>Bales</u>	: <u>Percent</u>
August	: 34,861	: 3.08	: 54,882	: 4.90
September	: 134,451	: 11.88	: 88,173	: 7.87
October	: 181,160	: 16.00	: 148,382	: 13.25
November	: 167,035	: 14.76	: 137,558	: 12.28
December	: 145,204	: 12.84	: 127,061	: 11.35
January	: 134,630	: 11.90	: 112,377	: 10.03
February	: 110,154	: 9.73	: 104,656	: 9.34
March	: 91,526	: 8.09	: 95,257	: 8.50
April	: 56,880	: 5.02	: 68,633	: 6.13
May	: 36,533	: 3.23	: 62,671	: 5.59
June	: 23,001	: 2.03	: 59,190	: 5.28
July	: 16,318	: 1.44	: 61,404	: 5.48
Total	: 1,131,853	: 100.00	: 1,120,244	: 100.00
			: 98.97% of	
			: production	

Table 6.- Average monthly production and shipments
of cottonseed hulls, 1935-39

Month	: Average	: Percent	: Average	: Monthly
	: pro-	: of	: sales	: percent of
	: duction	: production:		: sales
	: <u>Tons</u>	: <u>Percent</u>	: <u>Tons</u>	: <u>Percent</u>
August	: 42,528	: 3.56	: 43,902	: 3.64
September	: 152,588	: 12.77	: 121,359	: 10.06
October	: 193,430	: 16.19	: 162,496	: 13.48
November	: 176,909	: 14.81	: 154,855	: 12.84
December	: 153,796	: 12.87	: 143,131	: 11.87
January	: 138,782	: 11.62	: 142,893	: 11.85
February	: 112,108	: 9.38	: 133,301	: 11.05
March	: 94,032	: 7.87	: 106,102	: 8.96
April	: 56,553	: 4.73	: 70,739	: 5.87
May	: 35,726	: 2.99	: 50,166	: 4.16
June	: 22,242	: 1.86	: 39,386	: 3.27
July	: 16,061	: 1.34	: 35,563	: 2.95
Total	: 1,194,755	: 100.00	: 1,205,893	: 100.00
			: 100.93% of	
			: production	

AVERAGE MONTHLY PERCENTAGE OF CRUSHING CAPACITY UTILIZED BY COTTONSEED OIL MILLS, 1935-39

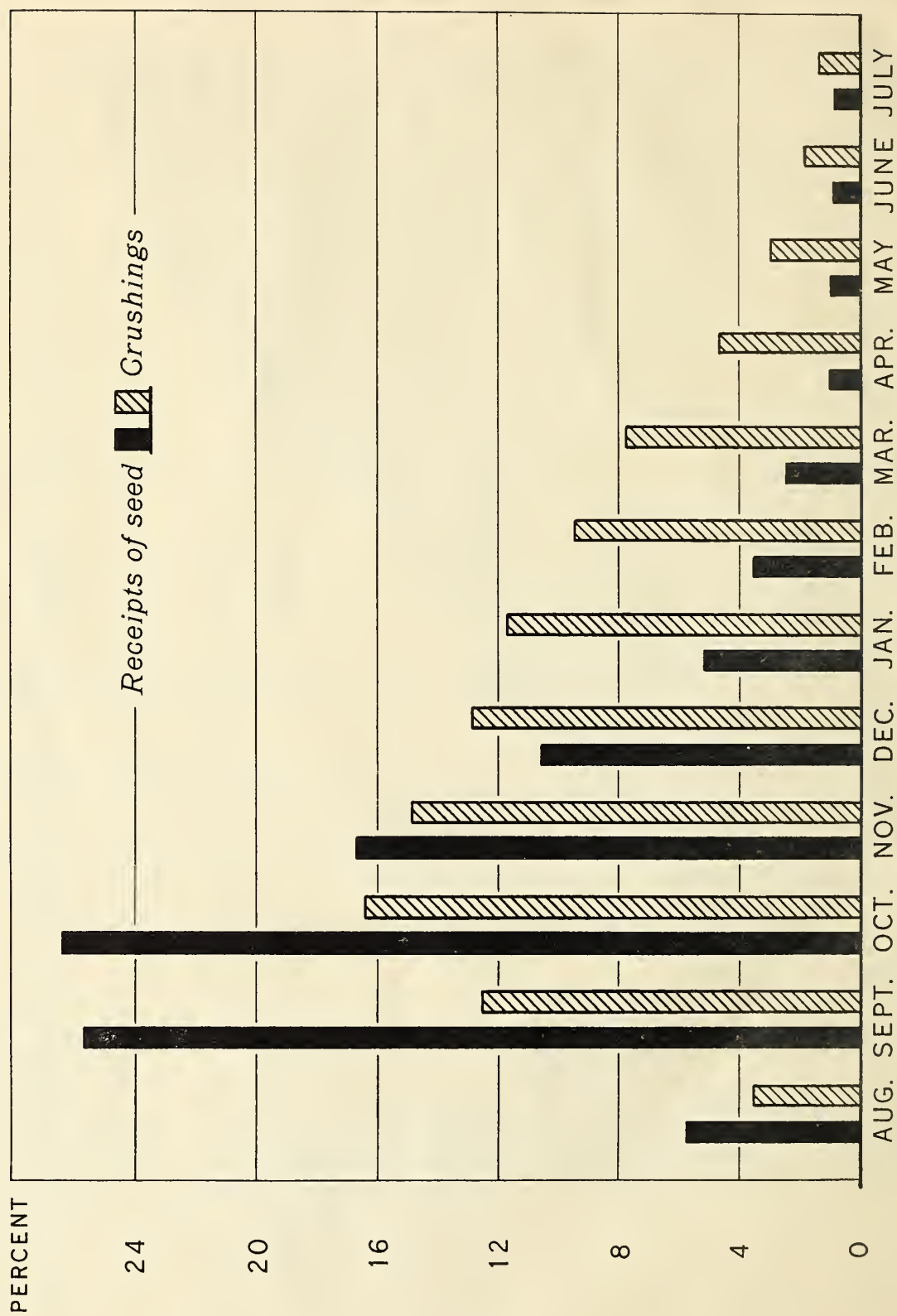


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FIGURE 1

AVERAGE MONTHLY PERCENTAGE OF COTTONSEED RECEIPTS AND CRUSHINGS, 1935-39



AVERAGE MONTHLY PERCENTAGE OF OIL PRODUCED AND SHIPPED BY COTTONSEED OIL MILLS, AND AVERAGE MONTHLY PRICE OF PRIME CRUDE OIL SOUTHEAST, 1935-39

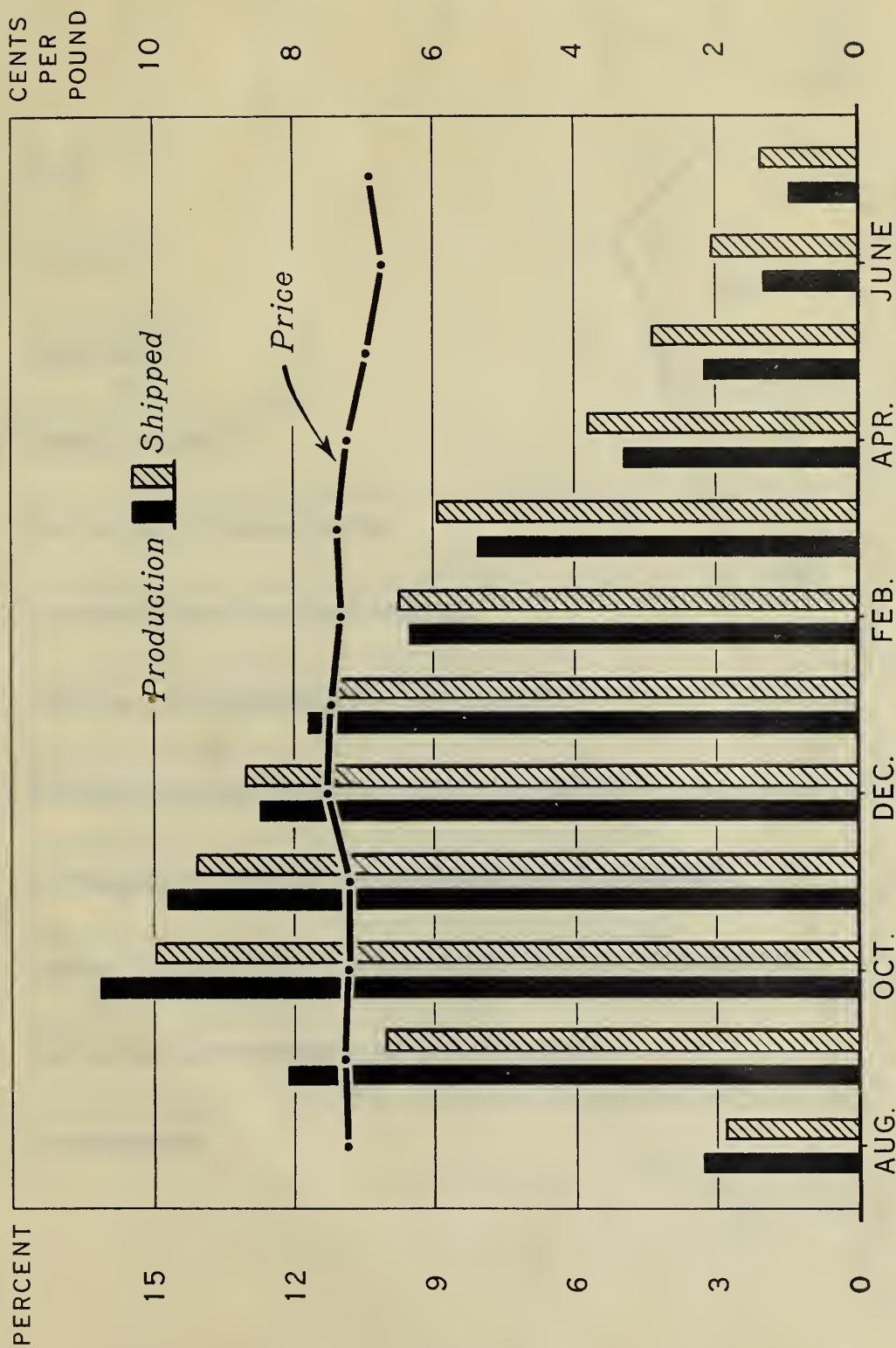
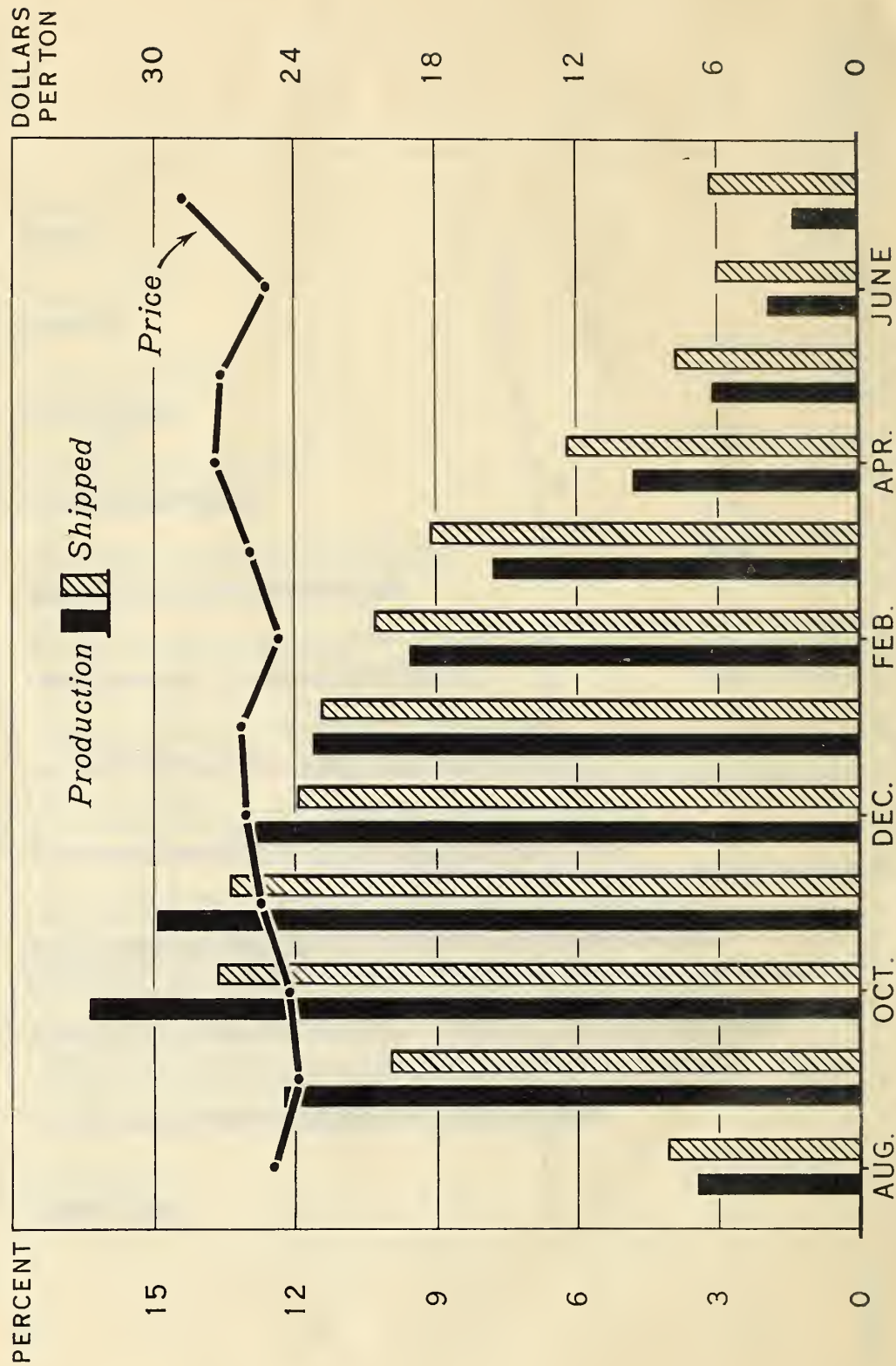


FIGURE 3

AVERAGE MONTHLY PERCENTAGE OF COTTONSEED CAKE AND MEAL PRODUCED AND SHIPPED, AND AVERAGE MONTHLY PRICE OF 41% PROTEIN MEAL, MEMPHIS, TENN., 1935-39



AVERAGE MONTHLY PERCENTAGE OF COTTON LINTERS PRODUCED AND SHIPPED, 1935-39

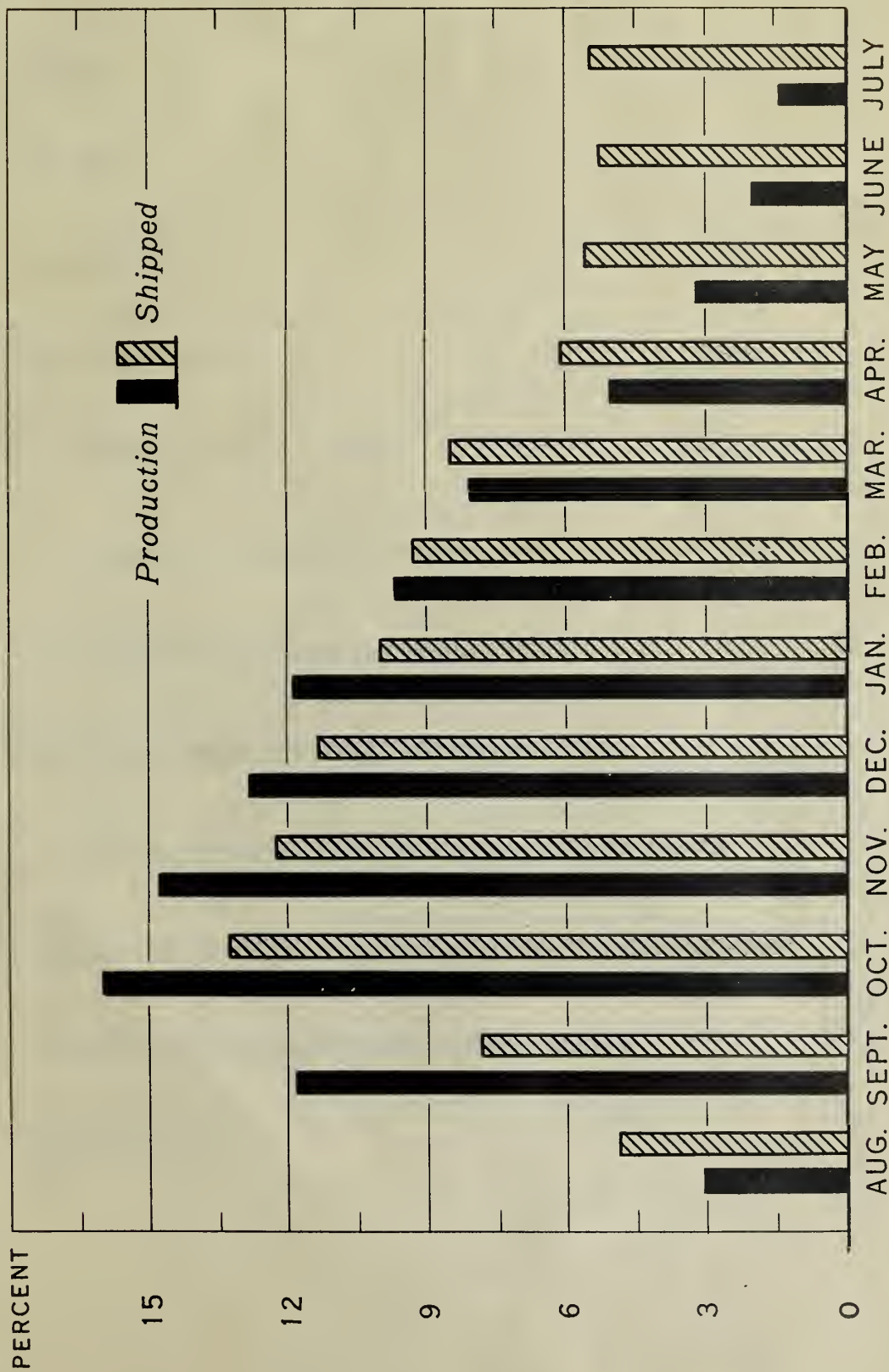


FIGURE 5

AVERAGE MONTHLY PERCENTAGE OF COTTONSEED HULLS PRODUCED AND SHIPPED, 1935-39

